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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/658,810	09/10/2003	Taro Terao	117127	2878

25944 7590 10/18/2007

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EXAMINER	
FEARER, MARK D	

ART UNIT	PAPER NUMBER
2143	

MAIL DATE	DELIVERY MODE
10/18/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/658,810	TERAO, TARO	
	Examiner	Art Unit	
	Mark D. Fearer	2143	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 September 2003*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *3-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *3-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 July 2007* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *7/19/07*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

- Applicant's Amendment filed 08/03/2007 is acknowledged.
- Claims 3-10 have been amended.
- Claims 11-14 are new.
- Claims 1-2 are cancelled.
- Claims 3-14 are pending in the present application.
- This action is made FINAL.

Information Disclosure Statement

The information disclosure statements submitted on 19 July 2007 has been considered by the Examiner and made of record in the application file.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 3 and 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seki et al. (US 20030005047 A1) in view of Gordon (US 20030097320 A1) and in further view of Bradley (US 6871245 B2).

Consider claim 3. Seki et al. discloses an operation unit for calculating a characteristic value based on a piece of data as a processing object (("... at the FP cache management unit 322, the contents dependent information value of the fingerprint of this reply data is calculated (step S105) and the fingerprint is obtained ...") paragraph 0185), holds the data fragments and the characteristic values in the cache holding unit while associating the data fragments with the addressable characteristic values as a fingerprint (("The fingerprint value of this reply data is obtained (step S29), and this fingerprint value and this reply data are set in correspondence (the fingerprint value is set as a key) and registered into the fingerprint cache 44 at the FP cache management unit 422 (step S31).") paragraph 0144), generates a sequence of characteristic values corresponding to the sequence of data fragments, calculates a characteristic value based on the sequence of characteristic values, and holds the sequence of characteristic values and the characteristic value calculated based on the sequence of characteristic values in the holding unit while associating the sequence of characteristic values with the characteristic value (("For example, when the data are to be transferred from the server side proxy 30 to the client side proxy 40 by using the HTTP protocol, the server side proxy 30 calculates the fingerprint of that data, and if the

data corresponding to that fingerprint exists in the fingerprint cache corresponding to that client side proxy 40, it implies that (data with the same content as) this data had been transferred to that client side proxy 40 in the past, so that the server side proxy 30 transfers the corresponding fingerprint value without transferring that data itself. The client side proxy 40 that received the fingerprint can reproduce the data to be transferred by taking out the data corresponding to that fingerprint value from the fingerprint cache. In this scheme (i.e., the sequence of data compression.fwdarw.data transfer.fwdarw.data decompression), it is possible to reduce the amount of data to be transferred through the network considerably because it suffices to send the fingerprint values for those data that are the same as the data already sent in the past.") paragraph 0082). However, Seki et al. fails to teach of fragmenting the data. Gordon discloses a computer system wherein data is divided into a sequence of data fragments each having a predetermined size and calculates characteristic values based on the data fragments in accordance with the data fragments respectively (("The input data units received by the IAES are processed by a set of specifically developed computer programs, which read the data units and divide the data records into fragments or blocks known to the IAES. The division of the data records by the routines is performed in accordance with predetermined parameters associated with the format and the content of the data record collection. The fragments and blocks have substantially identical dimensions. Each of the dimensionally substantially identical record fragment is assigned an arbitrarily predetermined complexity value by a set of specifically developed computer programs that calculate the complexity value of the fragments in

association with predetermined processing parameters. The division of the related data records into multiple fragments having identical dimensions, the assignment of the complexity value to the fragments, and the subsequent organization of the data fragments, provides the option of creating data segmentation meaningful groups and detecting characteristic groups that provide conclusive information regarding the input information. The complexity value calculation requires no a-priori knowledge of the diverse input data received by the IAES.") paragraph 0017) Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate fragmentation of data as taught by Gordon with holding fingerprints in cache as taught by Seki et al. for the purpose of efficient data transfer between a server and a client across a network. However, Seki et al., as modified by Gordon, fails to teach a holding unit for holding pieces of data as processing objects and first characteristic values calculated based on the pieces of data while associating the pieces of data with the first characteristic values respectively, a providing unit for accepting a received characteristic value as an information request for a piece of data as a processing object from a requester and selecting the piece of data associated with the received characteristic value from the pieces of data held by the holding unit to provide the piece of data to the requester, or a second characteristic value of data fragments. Bradley discloses file system translators and methods for implementing the same comprising a provider node, a server node, and first and second file systems (read as characteristics) (("Broadly speaking, the present invention fills the aforementioned needs by providing a file system translator capable of enabling efficient

and transparent communication between nodes having heterogeneous operating systems and associated file systems. In one embodiment, the file system translator of the present invention facilitates the simultaneous transparent access of heterogeneous platforms running different operating systems and associated file systems to a file system of a provider node, such as a storage node or a file server. The file system translator preferably includes a translator layer, which translates the commands communicated in the format of a file system native to the consumer to the file system format of an input/output node. It should be appreciated that the present invention can be implemented in numerous ways, including as a process, an apparatus, a system, a device, a method, or a computer readable media. Several embodiments of the present invention are described below. In one embodiment, a translation system for translating between nodes having heterogeneous file systems is disclosed. The translation system includes a consumer node having a first file system and a driver for supplementing requests from the first file system to a storage device. Also included in the translation system is an input/output (I/O) node which implements a second file system. The I/O node is connected to the storage device and is in communication with the consumer node over a transport. The I/O node includes a translator layer designed to map the supplemented requests from the first file system to the second file system and back to the first file system.") column 3 lines 21-51).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate file system translators and methods for implementing the same comprising a provider node, a server node, and first and second

file systems as taught by Bradley with fragmentation of data and holding fingerprints in cache as taught by Seki et al., as modified by Gordon, for the purpose of file system translation.

Consider claim 7, and as applied to claim 3 above. Seki et al., as modified by Gordan and Bradley, discloses a computer system wherein the holding unit holds information for specifying a characteristic value calculation method in association with the characteristic value (("When the reply data of this reply message is judged as a target for applying the FP compression at the step S44, at the FP cache management unit 322, the contents dependent information value of the fingerprint of this reply data is calculated (step S45) and the fingerprint is obtained by attaching the own server side proxy identification information to that contents dependent information (step S46). Then, the fingerprint cache 34 corresponding to the request source client side proxy 40 is searched through by using this fingerprint value as a key (step S47).") paragraph 0217.

Consider claim 8, and as applied to claim 3 above. Seki et al., as modified by Gordan and Bradley, discloses a computer system wherein the holding unit holds a characteristic value containing information concerning a predetermined calculation state at a point of time of calculation of the characteristic value (("Also, up to this point, at a time of transferring the data from the server side proxy 30 to the client side proxy 40, if this data is the same as that registered in the fingerprint cache, the network traffic is reduced by transferring the corresponding fingerprint instead of this data. This FP compression can be applied also to the case of transferring the request data or the like from the client side proxy 40 to the server side proxy 30 as well.") paragraph 0159).

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Seki et al. (US 20030005047 A1) as modified by Gordon (US 20030097320 A1) and in further view of Cheng et al. (US 20020105974 A1) and in further view of Bradley (US 6871245 B2).

Consider claim 4, and as applied to claim 3 above. Seki et al., as modified by Gordon and Bradley, discloses a computer system with a fingerprint management unit and a cache. This reads on "A computer system according to claim 3, wherein the operation unit calculates the characteristic value ..., the operation unit holds a result ... characteristic values in the holding unit. However, Seki et al., as modified by Gordon, fails to teach of an algorithm to sequentially fragment the data. Cheng et al. discloses a repetitive operation algorithm for calculation of sequential load values. This reads on "... the operation unit calculates the characteristic value based on the sequence of characteristic values by a repetitive operation for respective characteristic values contained in the sequence of characteristic values at a time of calculation of the characteristic value based on the sequence of characteristic values; and when the sequence of characteristic values comprises N characteristic values, the operation unit holds a result of the repetitive operation for one to N-1 characteristic values in the holding unit." (("The algorithm gives a reverse link load value that is a moving average of the reverse link load from a time frame that goes from the distant past up to the present. Each new calculation by the algorithm updates the most recently calculated reverse link load value by adding an increment load value to the previously obtained value and is dependent upon the number of frames in a window. The algorithm here disclosed does not ignore the previously calculated load value when computing the new

load value. Actually, each new calculation by the algorithm builds on the previously calculated load value and modifies the previously obtained load value to include the most recently obtained load value. A window that includes a few frames will have less of an effect on the new load value than a window that has more frames. Abrupt changes in the value of the Rate Limit value which will occur if the window contains two frames can be avoided by including more frames, for example 20 or 50 frames, in the window. In the explanation of the operation of this invention, and for illustrative purposes only, the window is comprised of fifty frames N, N-1, . . . N-49 where frame N is the current frame and frames N-1, N-2 . . . N-49 are the forty-nine frames which immediately precede the current frame N. Referring to FIG. 2, frame 60 is the current frame, and frames 62, 64, . . . 68 are preceding frames where frames 60-68 comprise the fifty frames of window 70. Now, for illustrative purposes, utilization of the algorithm is as follows: assume that there are five mobiles transmitting on the reverse link where mobiles 1 through 5 are transmitting at 9.6 kbps; 153.6 kbps, 9.6 kbps, 9.6 kbps and 76.8 kbps, respectively.") paragraph 0028).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate an algorithm for defining a window of frames as taught by Cheng et al. with cached fingerprints as taught by Seki et al., as modified by Gordon, for the purpose of sequentially defining and redefining a data packet of data.

. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Seki et al. (US 20030005047 A1) in view of Cheng et al. (US 20020105974 A1) and in further view of Bradley (US 6871245 B2).

Consider claim 5. Seki et al. discloses a computer system a computer system comprising an operation unit for calculating a characteristic value on the basis of a piece of data as a processing object, wherein the operation unit divides the piece of data as a processing object into a sequence of data fragments each having a predetermined size, calculates characteristic values based on the data fragments in accordance with the data fragments respectively (paragraph 0185), and compares the size of each calculated characteristic value with the predetermined size, holds the data fragment per se in the holding unit when the predetermined size is smaller than the size of the calculated characteristic value but holds the data fragment and the characteristic value associatively in the holding unit when the predetermined size is larger than the size of the calculated characteristic value (("For example, when the data are to be transferred from the server side proxy 30 to the client side proxy 40 by using the HTTP protocol, the server side proxy 30 calculates the contents dependent information of the fingerprint of that data, and if the data corresponding to that fingerprint formed by the own server side proxy identification information and that contents dependent information exists in the fingerprint cache, it implies that (data with the same content as) this data had been transferred to that client side proxy 40 in the past, so that the server side proxy 30 transfers the corresponding fingerprint value without transferring that data itself. The client side proxy 40 that received the fingerprint can reproduce the data to be

transferred by taking out the data corresponding to that fingerprint value from the fingerprint cache. In this scheme (i.e., the sequence of data compression.fwdarw.data transfer.fwdarw.data decompression), it is possible to reduce the amount of data to be transferred through the network considerably because it suffices to send the fingerprint values for those data that are the same as the data already sent in the past.") paragraph 0175). However, Seki et al. fails to teach of sequentially generating data fragments that correspond with characteristic values. Cheng et al. discloses a repetitive operation algorithm for calculating sequential load values. This reads on "... generates a characteristic value-containing sequence corresponding to the sequence of data fragments, calculates a characteristic value based on the characteristic value-containing sequence, and holds the characteristic value-containing sequence and the characteristic value calculated based on the characteristic value-containing sequence in the holding unit while associating the characteristic value-containing sequence with the characteristic value calculated based on the characteristic value-containing sequence." (paragraph 0028). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate an algorithm for defining a window of frames as taught by Cheng et al. with a method of comparing calculated values against predetermined sizes as taught by Seki et al. for the purpose of faster, non-repetitive network transfer of data. However, Seki et al., as modified by Cheng et al., fails to teach a holding unit for holding pieces of data as processing objects and first characteristic values calculated based on the pieces of data while associating the pieces of data with the first characteristic values respectively, a providing unit for

accepting a received characteristic value as an information request for a piece of data as a processing object from a requester and selecting the piece of data associated with the received characteristic value from the pieces of data held by the holding unit to provide the piece of data to the requester, or a second characteristic value of data fragments. Bradley discloses file system translators and methods for implementing the same comprising a provider node, a server node, and first and second file systems (read as characteristics) (("Broadly speaking, the present invention fills the aforementioned needs by providing a file system translator capable of enabling efficient and transparent communication between nodes having heterogeneous operating systems and associated file systems. In one embodiment, the file system translator of the present invention facilitates the simultaneous transparent access of heterogeneous platforms running different operating systems and associated file systems to a file system of a provider node, such as a storage node or a file server. The file system translator preferably includes a translator layer, which translates the commands communicated in the format of a file system native to the consumer to the file system format of an input/output node. It should be appreciated that the present invention can be implemented in numerous ways, including as a process, an apparatus, a system, a device, a method, or a computer readable media. Several embodiments of the present invention are described below. In one embodiment, a translation system for translating between nodes having heterogeneous file systems is disclosed. The translation system includes a consumer node having a first file system and a driver for supplementing requests from the first file system to a storage device. Also included in the translation

system is an input/output (I/O) node which implements a second file system. The I/O node is connected to the storage device and is in communication with the consumer node over a transport. The I/O node includes a translator layer designed to map the supplemented requests from the first file system to the second file system and back to the first file system.") column 3 lines 21-51).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate file system translators and methods for implementing the same comprising a provider node, a server node, and first and second file systems as taught by Bradley with an algorithm for defining a window of frames and a method of comparing calculated values against predetermined sizes as taught by Seki et al., as modified by Cheng et al., for the purpose of file system translation.

. Claims 6 and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seki et al. (US 20030005047 A1) in view of Bradley (US 6871245 B2).

Consider claim 6. Seki et al. discloses a computer system wherein the holding unit (paragraph 0006) holds a characteristic value calculated on the basis of a characteristic value set containing at least one characteristic value (paragraph 0081); and the providing unit provides respective characteristic values contained in a characteristic value set to the requester when a characteristic value accepted as information requesting a piece of data as a processing object is associated with the characteristic value set (("When the reply data of this reply message is judged as a target for applying the FP compression at the step S44, at the FP cache management unit 322, the contents dependent information value of the fingerprint of this reply data is

calculated (step S45) and the fingerprint is obtained by attaching the own server side proxy identification information to that contents dependent information (step S46). Then, the fingerprint cache 34 corresponding to the request source client side proxy 40 is searched through by using this fingerprint value as a key (step S47).") paragraph 0217). However, Seki et al. fails to teach a holding unit for holding pieces of data as processing objects and first characteristic values calculated based on the pieces of data while associating the pieces of data with the first characteristic values respectively, a providing unit for accepting a received characteristic value as an information request for a piece of data as a processing object from a requester and selecting the piece of data associated with the received characteristic value from the pieces of data held by the holding unit to provide the piece of data to the requester, or a second characteristic value of data fragments. Bradley discloses file system translators and methods for implementing the same comprising a provider node, a server node, and first and second file systems (read as characteristics) (("Broadly speaking, the present invention fills the aforementioned needs by providing a file system translator capable of enabling efficient and transparent communication between nodes having heterogeneous operating systems and associated file systems. In one embodiment, the file system translator of the present invention facilitates the simultaneous transparent access of heterogeneous platforms running different operating systems and associated file systems to a file system of a provider node, such as a storage node or a file server. The file system translator preferably includes a translator layer, which translates the commands communicated in the format of a file system native to the consumer to the file system

format of an input/output node. It should be appreciated that the present invention can be implemented in numerous ways, including as a process, an apparatus, a system, a device, a method, or a computer readable media. Several embodiments of the present invention are described below. In one embodiment, a translation system for translating between nodes having heterogeneous file systems is disclosed. The translation system includes a consumer node having a first file system and a driver for supplementing requests from the first file system to a storage device. Also included in the translation system is an input/output (I/O) node which implements a second file system. The I/O node is connected to the storage device and is in communication with the consumer node over a transport. The I/O node includes a translator layer designed to map the supplemented requests from the first file system to the second file system and back to the first file system.") column 3 lines 21-51).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate file system translators and methods for implementing the same comprising a provider node, a server node, and first and second file systems as taught by Bradley with a computer system wherein the holding unit holds a characteristic value calculated on the basis of a characteristic value set containing at least one characteristic value and the providing unit provides respective characteristic values contained in a characteristic value set to the requester when a characteristic value accepted as information requesting a piece of data as a processing object is associated with the characteristic value set as taught by Seki et al. for the purpose of file system translation.

Consider claims 9-10. Seki et al. discloses a computer system (("In this case, the computer will be provided with or connected with softwares such as OS, driver software, packet communication software and encryption software which have desired functions, and hardwares such as communication interface device, external memory device and input/output device.") paragraph 71) comprising a holding unit for holding pieces of data as file name processing objects (("In the case of the Web system, the browser or the like that is operating on the client often uses a cache mechanism for caching recently accessed data.") paragraph 0006) and characteristic values calculated on the basis of the pieces of data while associating the pieces of data with the characteristic values respectively (("As shown in FIG. 6, the fingerprint cache 60 to be provided in the server side proxy 30 and the client side proxy 40 is recording and managing the data body 61 that were exchanged by using the HTTP protocol in the past, by using the fingerprint value 62 calculated from that data body 61 as its name.") paragraph 0081); and a providing unit for accepting a characteristic value as information requesting a piece of data as a processing object from a requester and selecting the piece of data associated with the accepted characteristic value from the pieces of data held by the holding unit so as to provide the piece of data to the requester (("For the convenience of the explanation, the compression of the amount of transfer data by replacing the data body of a message with the fingerprint by utilizing the fingerprint cache at a time of the data transfer between the server side proxy 30 and the client side proxy 40 will be referred to as a fingerprint compression (FP compression) hereafter.") paragraph 0085). However, Seki et al. fails to disclose a system comprising a characteristic value is calculated

based on a piece of data as a processing. object, the piece of data is divided into a sequence of data fragments each having a predetermined size, second characteristic values are calculated based on the data fragments respectively, the data fragments and the second characteristic values are held while associating the data fragments with the second characteristic values respectively, a sequence of second characteristic values corresponding to the sequence of data fragments is generated, the sequence of second characteristic values is held and the characteristic value is calculated based on the sequence of second characteristic values while associating the sequence of second characteristic values with the characteristic value. Bradley discloses a method for file system translation between homogenous operating systems comprising a consumer node having a first file system and a driver for supplementing requests from the first file system to a storage device, an input/output node which implements a second file system wherein a dynamic file system is created by abstracting metadata of files, directories and volumes of a file system through attributes of objects (("In yet another embodiment, a method for enabling communication between nodes having heterogeneous file systems is disclosed. The method includes a consumer node generating a request to communicate with a desired I/O node that is connected to a nexus so as to perform discovery and enumeration of the desired I/O node. The I/O request for communication over the nexus is then supplemented. Thereafter, the I/O request to a particular device of the enumerated devices associated with the desired I/O node is communicated over the nexus. An I/O node then receives the I/O request from the consumer node and then determines file system type of the consumer node to be a

first file system. Thereafter, a second file system is mounted at the I/O node and the metadata for the second file system is then loaded. Subsequently, the metadata of the second file system is reformatted at the I/O node so as to substantially match a metadata format of the first file system. The reformatted metadata is then loaded by the consumer node, thereby completing the mount and enabling communication between the consumer node and the I/O node, as the reformatted metadata enables transparent translation to and from the first file system and the second file system.") column 4 lines 10-31 ("In one exemplary implementation, a dynamic file system is created by abstracting metadata of files, directories and volumes of a file system through attributes of objects. "Metadata," as used herein is defined as data about files, directories, volumes, etc., which is used by file systems to manage and access files and directories after a file system type of device is mounted. For example, such data may include the location of the data element, the association of the sata element, the ownership, information about the context of the data element, quality and condition of the data, characteristic of the data, etc. Exemplary attributes of file and directory type objects of the dynamic flat file system are: type, actions enabled, permissions, owner, group ID, local ID, local parent ID, etc. Thus, unlike the conventional file systems, both the directory and file type objects of the dynamic flat file system have knowledge of the identity of their immediate parents. In addition, directory type objects can also provide a list of their immediate children and their respective attributes. By mapping and converting the metadata of the file systems to attributes of volume, file and directory type objects, the dynamic flat file system can mimic any flat file system or any

hierarchical file system. That is, using the child information and parent information, a "false tree" can be constructed. Consequently, the relocation of a file from one directory into another directory does not require the actual physical relocation of the file or manipulation of a path descriptor. The object-based nature of the dynamic flat file system efficiently achieves this objective by simply changing the attributes of the file type and directory type objects. Additionally, unlike the conventional file systems, the object-based dynamic flat file system enables users and programs to directly access the directory and file type objects without traversing a hierarchical structure.") column 6 lines 22-55).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate a method for file system translation between homogenous operating systems comprising a consumer node having a first file system and a driver for supplementing requests from the first file system to a storage device, an input/output node which implements a second file system wherein a dynamic file system is created by abstracting metadata of files, directories and volumes of a file system through attributes of objects as taught by Bradley with a computer system comprising a holding unit for holding pieces of data as file name processing objects and characteristic values calculated on the basis of the pieces of data while associating the pieces of data with the characteristic values respectively, and a providing unit for accepting a characteristic value as information requesting a piece of data as a processing object from a requester and selecting the piece of data associated with the accepted characteristic value from the pieces of data held by the holding unit so as to

provide the piece of data to the requester as taught by Seki et al. for the purpose of a metadata server.

. Claims 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seki et al. (US 20030005047 A1) in view of Bradley (US 6871245 B2) and in further view of Call (US 7117227 B2).

Consider claims 11-12 and 13-14, and as applied to claims 9 and 10, respectively. Seki et al., as modified by Bradley, discloses a metadata server wherein file systems are translated between a client and a server. However, Seki et al., as modified by Bradley, fails to disclose a system comprising a procedure for holding information for specifying a characteristic value calculation method in association with the characteristic value and for holding a characteristic value containing information concerning a predetermined calculation state at a point of time of calculation of the characteristic value. Call discloses methods and apparatus for using the internet domain name system to disseminate product information and means for storing said information wherein a first source of a numeric code is used to derive a value in accordance with a predetermined translation process and a second value designated in accordance with the translation process (("A system for distributing information via the Internet relating to a manufactured product designated by a specific universal product code value that includes numeric company code characters that designate the manufacturer of said manufactured product, said system comprising, in combination: means for storing said information at a computing host accessible via the Internet at a specific Internet protocol address, a first source of a specific universal product code

value that designates a specific product, means coupled to said first source for deriving a domain name character string that includes numeric company code characters that designates the manufacturer of said specific product from said specific universal product code value in accordance with a predetermined translation process, means for storing a cross-reference in the Internet Domain Name System, said cross-reference specifying an association between said domain name character string and said specific Internet protocol address, and utilization means coupled to the Internet comprising: a second source of said specific universal product code value, means coupled to said second source for deriving a target domain name character string from said specific universal product code value in accordance with said predetermined translation process, means for transmitting said target domain name character string to the Internet Domain Name System to obtain said specific Internet protocol address, and means for transmitting a request message via the Internet to said specific Internet protocol address to obtain said information relating to said manufactured product designated by said specific universal product code value.") Claim 17).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate methods and apparatus for using the internet domain name system to disseminate product information and means for storing said information wherein a first source of a numeric code is used to derive a value in accordance with a predetermined translation process and a second value designated in accordance with the translation process as taught by Call with a metadata server

wherein file systems are translated between a client and a server as taught by Seki et al., as modified by Bradley, for the purpose of metadata file system translation.

Response to Arguments

Applicant's arguments filed August 3, 2007 with respect to claims 3-10 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any response to this Office Action should be faxed to (571) 273-8300 or mailed to:

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Mark Fearer whose telephone number is (571) 270-1770. The Examiner can normally be reached on Monday-Thursday from 7:30am to 5:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, David Wiley can be reached on (571) 272-3923. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you

have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 571-272-4100.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

Mark Fearer
M.D.F./mdf
October 12, 2007

DAVID WILEY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100